

Supplementary material

Why does COVID-19 case fatality rate vary among countries?

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Table S1. List of variable used. All data were retrieved from the online resource <https://ourworldindata.org/>.

Variable	Type	Source
Continent	class	
Geographical region	class	United Nations
Country	class	European Center for Disease Prevention and Control
Time since 100 th SARS-CoV-2 case (up to June 11 th 2020)	continuous	European Center for Disease Prevention and Control
Time since the occurrence of 1 death x1,000,000 (up to June 11 th 2020)	continuous	European Center for Disease Prevention and Control
COVID-19 case fatality rate (up to June 11 th 2020) Sex: both Age: all ages	continuous	European Center for Disease Prevention and Control
Disability-adjusted life years (numbers) Cardiovascular diseases Sex: both Age: all ages	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Disability-adjusted life years (numbers) Cancers Sex: both Age: all ages	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Disability-adjusted life years (numbers) Chronic respiratory diseases Sex: both Age: all ages	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Share of total disease burden (%) Cardiovascular diseases Sex: both Age: all ages	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2016 (GBD 2016) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2017.
Share of total disease burden (%) Cancers Sex: both Age: all ages	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2016 (GBD 2016) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2017.
Share of total disease burden (%) Chronic respiratory diseases Sex: both Age: all ages	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2016 (GBD 2016) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2017.
Disability-adjusted life years (rate) All causes Sex: both	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.

Age: 70+ years		
Deaths (rate) Cardiovascular diseases Sex: both Age: age-standardized	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Deaths (rate) Cancers Sex: both Age: age-standardized	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Deaths (rate) Air pollution Sex: both Age: age-standardized	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Deaths (rate) Ambient particulate matter pollution Sex: both Age: age-standardized	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Deaths (rate) Smoking Sex: both Age: 70+ years	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Share of deaths (%) Cardiovascular diseases Sex: both Age: all ages	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Share of deaths (%) Cancers Sex: both Age: all ages	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Share of deaths (%) Chronic respiratory diseases Sex: both Age: all ages	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Share of deaths (%) Chronic kidney diseases Sex: both Age: all ages	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Share of deaths (%) Lower respiratory infections Sex: both Age: all ages	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Share of deaths (%) Diabetes mellitus Sex: both Age: all ages	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.
Share of premature deaths attributed to outdoor air pollution (ozone and particulate matter) (%) Sex: both	continuous	Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2017 (GBD 2017) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2018.

Age: all ages		
Gross domestic product per capita based on purchasing power parity	continuous	World Bank – World Development Indicators
Total population	continuous	Gapminder, HYDE (2016) and United Nations Population Division (2019)
Total health expenditure as share of GDP (%)	continuous	World Bank – World Development Indicators
Number of hospital beds	continuous	OECD; Eurostat; World Bank; National Government Records as reported in https://ourworldindata.org/ .
Share of the population aged 70 or over	continuous	United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision, DVD Edition.
Level of democracy (from -10 to 10)	continuous	Polity IV as reported in https://ourworldindata.org/ .
Number of tests performed x 1,000	continuous	https://ourworldindata.org/ .
Stringency index	continuous	https://ourworldindata.org/ .